



SEQUENCE LISTING

<110> Zhou, Ming-Ming
Aggarwal, Aneel

<120> Methods of Identifying Modulators of Bromodomains

<130> 2459-1-003

<140> 09510314

<141> 2008-03-19

<150> 09/510,314

<151> 2000-02-22

<160> 44

<170> PatentIn version 3.0

<210> 1

<211> 3014

<212> DNA

<213> Homo sapiens

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 <212> PRT
 <213> Homo sapiens

<400> 2

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Pro	Pro	Ala	Pro	Pro	Gln	Gly	Ser	Pro	Cys	Ala	Ala	Ala	Ala	Gly	Gly	
		35					40					45				
Ser	Gly	Ala	Cys	Gly	Pro	Ala	Thr	Ala	Val	Ala	Ala	Ala	Gly	Thr	Ala	
	50					55				60						
Glu	Gly	Pro	Gly	Gly	Gly	Gly	Ser	Ala	Arg	Ile	Ala	Val	Lys	Lys	Ala	
65				70					75					80		
Gln	Leu	Arg	Ser	Ala	Pro	Arg	Ala	Lys	Lys	Leu	Glu	Lys	Leu	Gly	Val	
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Tyr	Ser	Ala	Cys	Lys	Ala	Glu	Glu	Ser	Cys	Lys	Cys	Asn	Gly	Trp	Lys	
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Asn	Pro	Asn	Pro	Ser	Pro	Thr	Pro	Pro	Arg	Ala	Asp	Leu	Gln	Gln	Ile	
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Ile	Val	Ser	Leu	Thr	Glu	Ser	Cys	Arg	Ser	Cys	Ser	His	Ala	Leu	Ala	
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Ala	His	Val	Ser	His	Leu	Glu	Asn	Val	Ser	Glu	Glu	Glu	Met	Asn	Arg	
145					150					155					160	
Leu	Leu	Gly	Ile	Val	Leu	Asp	Val	Glu	Tyr	Leu	Phe	Thr	Cys	Val	His	
			165					170						175		
Lys	Glu	Glu	Asp	Ala	Asp	Thr	Lys	Gln	Val	Tyr	Phe	Tyr	Leu	Phe	Lys	
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Leu	Leu	Arg	Lys	Ser	Ile	Leu	Gln	Arg	Gly	Lys	Pro	Val	Val	Glu	Gly	
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Ser Leu Glu Lys Lys Pro Pro Phe Glu Lys Pro Ser Ile Glu Gln Gly
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 Val Asn Asn Phe Val Gln Tyr Lys Phe Ser His Leu Pro Ala Lys Glu
 225 230 235 240
 Arg Gln Thr Ile Val Glu Leu Ala Lys Met Phe Leu Asn Arg Ile Asn
 245 250 255
 Tyr Trp His Leu Glu Ala Pro Ser Gln Arg Arg Leu Arg Ser Pro Asn
 260 265 270
 Asp Asp Ile Ser Gly Tyr Lys Glu Asn Tyr Thr Arg Trp Leu Cys Tyr
 275 280 285
 Cys Asn Val Pro Gln Phe Cys Asp Ser Leu Pro Arg Tyr Glu Thr Thr
 290 295 300
 Gln Val Phe Gly Arg Thr Leu Leu Arg Ser Val Phe Thr Val Met Arg
 305 310 315 320
 Arg Gln Leu Leu Glu Gln Ala Arg Gln Glu Lys Asp Lys Leu Pro Leu
 325 330 335
 Glu Lys Arg Thr Leu Ile Leu Thr His Phe Pro Lys Phe Leu Ser Met
 340 345 350
 Leu Glu Glu Glu Val Tyr Ser Gln Asn Ser Pro Ile Trp Asp Gln Asp
 355 360 365
 Phe Leu Ser Ala Ser Ser Arg Thr Ser Gln Leu Gly Ile Gln Thr Val
 370 375 380
 Ile Asn Pro Pro Pro Val Ala Gly Thr Ile Ser Tyr Asn Ser Thr Ser
 385 390 395 400
 Ser Ser Leu Glu Gln Pro Asn Ala Gly Ser Ser Ser Pro Ala Cys Lys
 405 410 415
 Ala Ser Ser Gly Leu Glu Ala Asn Pro Gly Glu Lys Arg Lys Met Thr
 420 425 430
 Asp Ser His Val Leu Glu Glu Ala Lys Lys Pro Arg Val Met Gly Asp
 435 440 445
 Ile Pro Met Glu Leu Ile Asn Glu Val Met Ser Thr Ile Thr Asp Pro
 450 455 460
 Ala Ala Met Leu Gly Pro Glu Thr Asn Phe Leu Ser Ala His Ser Ala
 465 470 475 480
 Arg Asp Glu Ala Ala Arg Leu Glu Glu Arg Arg Gly Val Ile Glu Phe
 485 490 495
 His Val Val Gly Asn Ser Leu Asn Gln Lys Pro Asn Lys Lys Ile Leu
 500 505 510
 Met Trp Leu Val Gly Leu Gln Asn Val Phe Ser His Gln Leu Pro Arg
 515 520 525

Met	Pro	Lys	Glu	Tyr	Ile	Thr	Arg	Leu	Val	Phe	Asp	Pro	Lys	His	Lys	
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Thr	Leu	Ala	Leu	Ile	Lys	Asp	Gly	Arg	Val	Ile	Gly	Gly	Ile	Cys	Phe	
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Arg	Met	Phe	Pro	Ser	Gln	Gly	Phe	Thr	Glu	Ile	Val	Phe	Cys	Ala	Val	
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Thr	Ser	Asn	Glu	Gln	Val	Lys	Gly	Tyr	Gly	Thr	His	Leu	Met	Asn	His	
			580					585					590			
Leu	Lys	Glu	Tyr	His	Ile	Lys	His	Asp	Ile	Leu	Asn	Phe	Leu	Thr	Tyr	
		595					600					605				
Ala	Asp	Glu	Tyr	Ala	Ile	Gly	Tyr	Phe	Lys	Lys	Gln	Gly	Phe	Ser	Lys	
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Glu	Ile	Lys	Ile	Pro	Lys	Thr	Lys	Tyr	Val	Gly	Tyr	Ile	Lys	Asp	Tyr	
625					630					635					640	
Glu	Gly	Ala	Thr	Leu	Met	Gly	Cys	Glu	Leu	Asn	Pro	Arg	Ile	Pro	Tyr	
				645					650					655		
Thr	Glu	Phe	Ser	Val	Ile	Ile	Lys	Lys	Gln	Lys	Glu	Ile	Ile	Lys	Lys	
			660					665					670			
Leu	Ile	Glu	Arg	Lys	Gln	Ala	Gln	Ile	Arg	Lys	Val	Tyr	Pro	Gly	Leu	
		675					680					685				
Ser	Cys	Phe	Lys	Asp	Gly	Val	Arg	Gln	Ile	Pro	Ile	Glu	Ser	Ile	Pro	
	690					695					700					
Gly	Ile	Arg	Glu	Thr	Gly	Trp	Lys	Pro	Ser	Gly	Lys	Glu	Lys	Ser	Lys	
705					710					715					720	
Glu	Pro	Arg	Asp	Pro	Asp	Gln	Leu	Tyr	Ser	Thr	Leu	Lys	Ser	Ile	Leu	
				725					730					735		
Gln	Gln	Val	Lys	Ser	His	Gln	Ser	Ala	Trp	Pro	Phe	Met	Glu	Pro	Val	
			740					745					750			
Lys	Arg	Thr	Glu	Ala	Pro	Gly	Tyr	Tyr	Glu	Val	Ile	Arg	Phe	Pro	Met	
		755					760					765				
Asp	Leu	Lys	Thr	Met	Ser	Glu	Arg	Leu	Lys	Asn	Arg	Tyr	Tyr	Val	Ser	
	770					775					780					
Lys	Lys	Leu	Phe	Met	Ala	Asp	Leu	Gln	Arg	Val	Phe	Thr	Asn	Cys	Lys	
785					790					795					800	
Glu	Tyr	Asn	Ala	Ala	Glu	Ser	Glu	Tyr	Tyr	Lys	Cys	Ala	Asn	Ile	Leu	
				805					810					815		
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<210> 3
<211> 16

<212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic bromodomain peptide

<220>
 <221> Xaa
 <222> (2)..(4)
 <223> Xaa is a maximum of three amino acids. Each of these can be any amino acid. One may be missing.

<220>
 <221> Xaa
 <222> (4)..(11)
 <223> Xaa is a maximum of eight amino acids. Each of these can be any amino acid. One, two, or three may be missing.

<220>
 <221> Xaa
 <222> (5)..(5)
 <223> Xaa is a single amino acid that is either Pro, Lys, or His.

<220>
 <221> Xaa
 <222> (6)..(6)
 <223> Xaa is any single amino acid.

<220>
 <221> Xaa
 <222> (8)..(8)
 <223> Xaa is a single amino acid that can be either Tyr, Phe, or His.

<220>
 <221> Xaa
 <222> (9)..(13)
 <223> Xaa is 5 amino acids. Each of these can be any amino acid.

<220>
 <221> Xaa
 <222> (11)..(11)
 <223> Xaa is a single amino acid that can be either Met, Ile, or Val.

<400> 3

Phe	Xaa	Pro	Xaa	Xaa	Xaa	Tyr	Xaa	Xaa	Xaa	Xaa	Xaa	Pro	Xaa	Asp
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<210> 4
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 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> synthetic bromodomain peptide

<220>
 <221> Xaa
 <222> (6)..(6)
 <223> Xaa represents an acetyl-lysine
 <400> 4

Ile Ser Tyr Gly Arg Xaa Lys Arg Arg Gln Arg Arg
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<210> 5
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic bromodomain peptide

<220>
 <221> Xaa
 <222> (8)..(8)
 <223> Xaa represents an acetyl lysine.
 <400> 5

Ala Arg Lys Ser Thr Gly Gly Xaa Ala Pro Arg Lys Gln Leu
 1 5 10

<210> 6
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 <213> Artificial Sequence

<220>
 <223> synthetic bromodomain peptide

<220>
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 <222> (8)..(8)
 <223> Xaa represents an acetyl lysine.
 <400> 6

Gln Ser Thr Ser Arg His Lys Xaa Leu Met Phe Lys Thr Glu
 1 5 10

<210> 7
 <211> 110
 <212> PRT
 <213> Homo sapiens, bromodomain peptide

<400> 7

Ser Lys Glu Pro Arg Asp Pro Asp Gln Leu Tyr Ser Thr Leu Lys Ser
 1 5 10 15

Ile Leu Gln Gln Val Lys Ser His Gln Ser Ala Trp Pro Phe Met Glu
 20 25 30
 Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr Tyr Glu Val Ile Arg Ser
 35 40 45
 Pro Met Asp Leu Lys Thr Met Ser Glu Arg Leu Lys Asn Arg Tyr Tyr
 50 55 60
 Val Ser Lys Lys Leu Phe Met Ala Asp Leu Gln Arg Val Phe Thr Asn
 65 70 75 80
 Cys Lys Glu Tyr Asn Ala Pro Glu Ser Glu Tyr Tyr Lys Cys Ala Asn
 85 90 95
 Ile Leu Glu Lys Phe Phe Phe Ser Lys Ile Lys Glu Ala Gly
 100 105 110

<210> 8
 <211> 110
 <212> PRT
 <213> Homo sapiens

<400> 8

Gly Lys Glu Leu Lys Asp Pro Asp Gln Leu Tyr Thr Thr Leu Lys Asn
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 Leu Leu Ala Gln Ile Lys Ser His Pro Ser Ala Trp Pro Phe Met Glu
 20 25 30
 Pro Val Lys Lys Ser Glu Ala Pro Asp Tyr Tyr Glu Val Ile Arg Phe
 35 40 45
 Pro Ile Asp Leu Lys Thr Met Thr Glu Arg Leu Arg Ser Arg Tyr Tyr
 50 55 60
 Val Thr Arg Lys Leu Phe Val Ala Asp Leu Gln Arg Val Ile Ala Asn
 65 70 75 80
 Cys Arg Glu Tyr Asn Pro Pro Asp Ser Glu Tyr Cys Arg Cys Ala Ser
 85 90 95
 Ala Leu Glu Lys Phe Phe Tyr Phe Lys Leu Lys Glu Gly Gly
 100 105 110

<210> 9
 <211> 109
 <212> PRT
 <213> Tetrahymena thermophila

<400> 9

Leu Lys Lys Ser Lys Glu Arg Ser Phe Asn Leu Gln Cys Ala Asn Val
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 Ile Glu Asn Met Lys Arg His Lys Gln Ser Trp Pro Phe Leu Asp Pro
 20 25 30

Val Asn Lys Asp Asp Val Pro Asp Tyr Tyr Asp Val Ile Thr Asp Pro
35 40 45

Ile Asp Ile Lys Ala Ile Glu Lys Lys Leu Gln Asn Asn Gln Tyr Val
50 55 60

Asp Lys Asp Gln Phe Ile Lys Asp Val Lys Arg Ile Phe Thr Asn Ala
65 70 75 80

Lys Ile Tyr Asn Gln Pro Asp Thr Ile Tyr Tyr Lys Ala Ala Lys Glu
85 90 95

Leu Glu Asp Phe Val Glu Pro Tyr Leu Thr Lys Leu Lys
100 105

<210> 10
<211> 109
<212> PRT
<213> *Saccharomyces cerevisiae*

<400> 10

Ala Gln Arg Pro Lys Arg Gly Pro His Asp Ala Ala Ile Gln Asn Ile
1 5 10 15

Leu Thr Glu Leu Gln Asn His Ala Ala Ala Trp Pro Phe Leu Gln Pro
20 25 30

Val Asn Lys Glu Glu Val Pro Asp Tyr Tyr Asp Phe Ile Lys Glu Pro
35 40 45

Met Asp Leu Ser Thr Met Glu Ile Lys Leu Glu Ser Asn Lys Tyr Gln
50 55 60

Lys Met Glu Asp Phe Ile Tyr Asp Ala Arg Leu Val Phe Asn Asn Cys
65 70 75 80

Arg Met Tyr Asn Gly Glu Asn Thr Ser Tyr Tyr Lys Tyr Ala Asn Arg
85 90 95

Leu Glu Lys Phe Phe Asn Asn Lys Val Lys Glu Ile Pro
100 105

<210> 11
<211> 112
<212> PRT
<213> *Homo sapiens*

<400> 11

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr
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Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln
20 25 30

Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val
35 40 45

Lys Ser Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly
 50 55 60
 Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Ile Trp Leu Met Phe
 65 70 75 80
 Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Tyr
 85 90 95
 Cys Ser Lys Leu Ser Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met
 100 105 110

<210> 12
 <211> 112
 <212> PRT
 <213> Homo sapiens

<400> 12

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr
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 Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln
 20 25 30
 Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val
 35 40 45
 Lys Asn Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly
 50 55 60
 Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Val Trp Leu Met Phe
 65 70 75 80
 Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Phe
 85 90 95
 Cys Ser Lys Leu Ala Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met
 100 105 110

<210> 13
 <211> 112
 <212> PRT
 <213> Mus musculus

<400> 13

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr
 1 5 10 15
 Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln
 20 25 30
 Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val
 35 40 45
 Lys Asn Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly
 50 55 60

Gln	Tyr	Gln	Glu	Pro	Trp	Gln	Tyr	Val	Asp	Asp	Val	Arg	Leu	Met	Phe
65					70					75					80
Asn	Asn	Ala	Trp	Leu	Tyr	Asn	Arg	Lys	Thr	Ser	Arg	Val	Tyr	Lys	Phe
				85					90					95	
Cys	Ser	Lys	Leu	Ala	Glu	Val	Phe	Glu	Gln	Glu	Ile	Asp	Pro	Val	Met
			100					105					110		

<210> 14
 <211> 111
 <212> PRT
 <213> *Caenorhabditis elegans*

<400> 14

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Trp	Glu	Lys	Leu	Asp	Lys	Ser	Glu	Asp	Ala	Ala	Pro	Phe	Arg	Val	Pro
			20					25					30		
Val	Asp	Ala	Lys	Leu	Leu	Asn	Ile	Pro	Asp	Tyr	His	Glu	Ile	Ile	Lys
		35					40					45			
Arg	Pro	Met	Asp	Leu	Glu	Thr	Val	His	Lys	Lys	Leu	Tyr	Ala	Gly	Gln
	50					55					60				
Tyr	Gln	Asn	Ala	Gly	Gln	Phe	Cys	Asp	Asp	Ile	Trp	Leu	Met	Leu	Asp
65					70					75					80
Asn	Ala	Trp	Leu	Tyr	Asn	Arg	Lys	Asn	Ser	Lys	Val	Tyr	Lys	Tyr	Gly
				85					90					95	
Leu	Lys	Leu	Ser	Glu	Met	Phe	Val	Ser	Glu	Met	Asp	Pro	Val	Met	
			100					105					110		

<210> 15
 <211> 110
 <212> PRT
 <213> *Homo sapiens*

<400> 15

Arg	Arg	Arg	Thr	Asp	Pro	Met	Val	Thr	Leu	Ser	Ser	Ile	Leu	Glu	Ser
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Ile	Ile	Asn	Asp	Met	Arg	Asp	Leu	Pro	Asn	Thr	Tyr	Pro	Phe	His	Thr
			20					25					30		
Pro	Val	Asn	Ala	Lys	Val	Val	Lys	Asp	Tyr	Tyr	Lys	Ile	Ile	Thr	Arg
		35					40					45			
Pro	Met	Asp	Leu	Gln	Thr	Leu	Arg	Glu	Asn	Val	Arg	Lys	Arg	Leu	Tyr
	50					55				60					
Pro	Ser	Arg	Glu	Glu	Phe	Arg	Glu	His	Leu	Glu	Leu	Ile	Val	Lys	Asn
65					70					75					80

Ser Ala Thr Tyr Asn Gly Pro Lys His Ser Leu Thr Gln Ile Ser Gln
85 90 95

Ser Met Leu Asp Leu Cys Asp Glu Lys Leu Lys Glu Lys Glu
100 105 110

<210> 16
<211> 110
<212> PRT
<213> Mesocricetus auratus

<400> 16

Arg Arg Arg Thr Asp Pro Met Val Thr Leu Ser Ser Ile Leu Glu Ser
1 5 10 15

Ile Ile Asn Asp Met Arg Asp Leu Pro Asn Thr Tyr Pro Phe His Thr
20 25 30

Pro Val Asn Ala Lys Val Val Lys Asp Tyr Tyr Lys Ile Ile Thr Arg
35 40 45

Pro Met Asp Leu Gln Thr Leu Arg Glu Asn Val Arg Lys Arg Leu Tyr
50 55 60

Pro Ser Arg Glu Glu Phe Arg Glu His Leu Glu Leu Ile Val Lys Asn
65 70 75 80

Ser Ala Thr Tyr Asn Gly Pro Lys His Ser Leu Thr Gln Ile Ser Gln
85 90 95

Ser Met Leu Asp Leu Cys Asp Glu Lys Leu Lys Glu Lys Glu
100 105 110

<210> 17
<211> 111
<212> PRT
<213> Homo sapiens

<400> 17

Leu Leu Asp Asp Asp Asp Gln Val Ala Phe Ser Phe Ile Leu Asp Asn
1 5 10 15

Ile Val Thr Gln Lys Met Met Ala Val Pro Asp Ser Trp Pro Phe His
20 25 30

His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val
35 40 45

Asn Pro Met Asp Leu Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys
50 55 60

Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala
65 70 75 80

Asn Ser Val Lys Tyr Asn Gly Pro Glu Ser Gln Tyr Thr Lys Thr Ala
85 90 95

Gln Glu Ile Val Asn Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp
100 105 110

<210> 18
<211> 111
<212> PRT
<213> Mesocricetus auratus

<400> 18

Leu Leu Asp Asp Asp Asp Gln Val Ala Phe Ser Phe Ile Leu Asp Asn
1 5 10 15
Ile Val Thr Gln Lys Met Met Ala Val Pro Asp Ser Trp Pro Phe His
20 25 30
His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val
35 40 45
Ser Pro Met Asp Leu Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys
50 55 60
Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala
65 70 75 80
Asn Ser Val Lys Tyr Asn Gly Ser Glu Ser Gln Tyr Thr Lys Thr Ala
85 90 95
Gln Glu Ile Val Asn Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp
100 105 110

<210> 19
<211> 111
<212> PRT
<213> Homo sapiens

<400> 19

Lys Pro Gly Arg Val Thr Asn Gln Leu Gln Tyr Leu His Lys Val Val
1 5 10 15
Met Lys Ala Leu Trp Lys His Gln Phe Ala Trp Pro Phe Arg Gln Pro
20 25 30
Val Asp Ala Val Lys Leu Gly Leu Pro Asp Tyr His Lys Ile Ile Lys
35 40 45
Gln Pro Met Asp Met Gly Thr Ile Lys Arg Arg Leu Glu Asn Asn Tyr
50 55 60
Tyr Trp Ala Ala Ser Glu Cys Met Gln Asp Phe Asn Thr Met Phe Thr
65 70 75 80
Asn Cys Tyr Ile Tyr Asn Lys Pro Thr Asp Asp Ile Val Leu Met Ala
85 90 95
Gln Thr Leu Glu Lys Ile Phe Leu Gln Lys Val Ala Ser Met Pro
100 105 110

<210> 20
 <211> 111
 <212> PRT
 <213> Homo sapiens

<400> 20

Lys	Pro	Gly	Arg	Lys	Thr	Asn	Gln	Leu	Gln	Tyr	Met	Gln	Asn	Val	Val
1				5					10					15	
Val	Lys	Thr	Leu	Trp	Lys	His	Gln	Phe	Ala	Trp	Pro	Phe	Tyr	Gln	Pro
			20					25					30		
Val	Asp	Ala	Ile	Lys	Leu	Asn	Leu	Pro	Asp	Tyr	His	Lys	Ile	Ile	Lys
		35					40					45			
Asn	Pro	Met	Asp	Met	Gly	Thr	Ile	Lys	Lys	Arg	Leu	Glu	Asn	Asn	Tyr
		50				55					60				
Tyr	Trp	Ser	Ala	Ser	Glu	Cys	Met	Gln	Asp	Phe	Asn	Thr	Met	Phe	Thr
65					70					75					80
Asn	Cys	Tyr	Ile	Tyr	Asn	Lys	Pro	Thr	Asp	Asp	Ile	Val	Leu	Met	Ala
				85					90					95	
Gln	Ala	Leu	Glu	Lys	Ile	Phe	Leu	Gln	Lys	Val	Ala	Gln	Met	Pro	
			100					105					110		

<210> 21
 <211> 111
 <212> PRT
 <213> Drosophila melanogaster

<400> 21

Arg	Pro	Gly	Arg	Asn	Thr	Asn	Gln	Leu	Gln	Tyr	Leu	Ile	Lys	Thr	Val
1				5					10					15	
Met	Lys	Val	Ile	Trp	Lys	His	His	Phe	Ser	Trp	Pro	Phe	Gln	Gln	Pro
			20					25					30		
Val	Asp	Ala	Lys	Lys	Leu	Asn	Leu	Pro	Asp	Tyr	His	Lys	Ile	Ile	Lys
		35					40					45			
Gln	Pro	Met	Asp	Met	Gly	Thr	Ile	Lys	Lys	Arg	Leu	Glu	Asn	Asn	Tyr
		50				55					60				
Tyr	Trp	Ser	Ala	Lys	Glu	Thr	Ile	Gln	Asp	Phe	Asn	Thr	Met	Phe	Asn
65					70					75					80
Asn	Cys	Tyr	Val	Tyr	Asn	Lys	Pro	Gly	Glu	Asp	Val	Val	Val	Met	Ala
				85					90					95	
Gln	Thr	Leu	Glu	Lys	Val	Phe	Leu	Gln	Lys	Ile	Glu	Ser	Met	Pro	
			100					105					110		

<210> 22
 <211> 109

<212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 22

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Asn Pro Ile Pro Lys His Gln Gln Lys His Ala Leu Leu Ala Ile Lys
1          5          10          15
Ala Val Lys Arg Leu Lys Asp Ala Arg Pro Phe Leu Gln Pro Val Asp
          20          25          30
Pro Val Lys Leu Asp Ile Pro Phe Tyr Phe Asn Tyr Ile Lys Arg Pro
          35          40          45
Met Asp Leu Ser Thr Ile Glu Arg Lys Leu Asn Val Gly Ala Tyr Glu
          50          55          60
Val Pro Glu Gln Ile Thr Glu Asp Phe Asn Leu Met Val Asn Asn Ser
65          70          75          80
Ile Lys Phe Asn Gly Pro Asn Ala Gly Ile Ser Gln Met Ala Arg Asn
          85          90          95
Ile Gln Ala Ser Phe Glu Lys His Met Leu Asn Met Pro
          100          105

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<210> 23
 <211> 113
 <212> PRT
 <213> *Homo sapiens*

<400> 23

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Lys Lys Gly Lys Leu Ser Glu Gln Leu Lys His Cys Asn Gly Ile Leu
1          5          10          15
Lys Glu Leu Leu Ser Lys Lys His Ala Ala Tyr Ala Trp Pro Phe Tyr
          20          25          30
Lys Pro Val Asp Ala Ser Ala Leu Gly Leu His Asp Tyr His Asp Ile
          35          40          45
Ile Lys His Pro Met Asp Leu Ser Thr Val Lys Arg Lys Met Glu Asn
          50          55          60
Arg Asp Tyr Arg Asp Ala Gln Glu Phe Ala Ala Asp Val Arg Leu Met
65          70          75          80
Phe Ser Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Asp Val Val Ala
          85          90          95
Met Ala Arg Lys Leu Gln Asp Val Phe Glu Phe Arg Tyr Ala Lys Met
          100          105          110
Pro

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<210> 24
 <211> 113

<212> PRT
<213> Homo sapiens

<400> 24

Lys Lys Gly Lys Leu Ser Glu His Leu Arg Tyr Cys Asp Ser Ile Leu
1 5 10 15
Arg Glu Met Leu Ser Lys Lys His Ala Ala Tyr Ala Trp Pro Phe Tyr
20 25 30
Lys Pro Val Asp Ala Glu Ala Leu Glu Leu His Asp Tyr His Asp Ile
35 40 45
Ile Lys His Pro Met Asp Leu Ser Thr Val Lys Arg Lys Met Asp Gly
50 55 60
Arg Glu Tyr Pro Asp Ala Gln Gly Phe Ala Ala Asp Val Arg Leu Met
65 70 75 80
Phe Ser Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Glu Val Val Ala
85 90 95
Met Ala Arg Lys Leu Gln Asp Val Phe Glu Met Arg Phe Ala Lys Met
100 105 110

Pro

<210> 25
<211> 113
<212> PRT
<213> Drosophila melanogaster

<400> 25

Asn Lys Glu Lys Leu Ser Asp Ala Leu Lys Ser Cys Asn Glu Ile Leu
1 5 10 15
Lys Glu Leu Phe Ser Lys Lys His Ser Gly Tyr Ala Trp Pro Phe Tyr
20 25 30
Lys Pro Val Asp Ala Glu Met Leu Gly Leu His Asp Tyr His Asp Ile
35 40 45
Ile Lys Lys Pro Met Asp Leu Gly Thr Val Lys Arg Lys Met Asp Asn
50 55 60
Arg Glu Tyr Lys Ser Ala Pro Glu Phe Ala Ala Asp Val Arg Leu Ile
65 70 75 80
Phe Thr Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Asp Val Val Ala
85 90 95
Met Gly Arg Lys Leu Gln Asp Val Phe Glu Met Arg Tyr Ala Asn Ile
100 105 110

Pro

<210> 26

<211> 113
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 26

Lys	Ser	Lys	Arg	Leu	Gln	Gln	Ala	Met	Lys	Phe	Cys	Gln	Ser	Val	Leu
1				5					10					15	
Lys	Glu	Leu	Met	Ala	Lys	Lys	His	Ala	Ser	Tyr	Asn	Tyr	Pro	Phe	Leu
			20					25					30		
Glu	Pro	Val	Asp	Pro	Val	Ser	Met	Asn	Leu	Pro	Thr	Tyr	Phe	Asp	Tyr
		35					40					45			
Val	Lys	Glu	Pro	Met	Asp	Leu	Gly	Thr	Ile	Ala	Lys	Lys	Leu	Asn	Asp
	50					55					60				
Trp	Gln	Tyr	Gln	Thr	Met	Glu	Asp	Phe	Glu	Arg	Glu	Val	Arg	Leu	Val
65					70					75					80
Phe	Lys	Asn	Cys	Tyr	Thr	Phe	Asn	Pro	Asp	Gly	Thr	Ile	Val	Asn	Met
				85					90					95	
Met	Gly	His	Arg	Leu	Glu	Glu	Val	Phe	Asn	Ser	Lys	Trp	Ala	Asp	Arg
			100					105						110	

Pro

<210> 27
 <211> 108
 <212> PRT
 <213> *Homo sapiens*

<400> 27

Met	Glu	Met	Gln	Leu	Thr	Pro	Phe	Leu	Ile	Leu	Leu	Arg	Lys	Thr	Leu
1				5					10					15	
Glu	Gln	Leu	Gln	Glu	Lys	Asp	Thr	Gly	Asn	Ile	Phe	Ser	Glu	Pro	Val
			20					25					30		
Pro	Leu	Ser	Glu	Val	Pro	Asp	Tyr	Leu	Asp	His	Ile	Lys	Lys	Pro	Met
		35					40					45			
Asp	Phe	Phe	Thr	Met	Lys	Gln	Asn	Leu	Glu	Ala	Tyr	Arg	Tyr	Leu	Asn
	50					55					60				
Phe	Asp	Asp	Phe	Glu	Glu	Asp	Phe	Asn	Leu	Ile	Val	Ser	Asn	Cys	Leu
65					70					75					80
Lys	Tyr	Asn	Ala	Lys	Asp	Thr	Ile	Phe	Tyr	Arg	Ala	Ala	Val	Arg	Leu
				85					90					95	
Arg	Glu	Gln	Gly	Gly	Ala	Val	Val	Arg	Gln	Ala	Arg				
			100					105							

<210> 28
 <211> 113

<212> PRT
<213> Homo sapiens

<400> 28

Ser Glu Asp Gln Glu Ala Ile Gln Ala Gln Lys Ile Trp Lys Lys Ala
1 5 10 15
Ile Met Leu Val Trp Arg Ala Ala Ala Asn His Arg Tyr Ala Asn Val
20 25 30
Phe Leu Gln Pro Val Thr Asp Asp Ile Ala Pro Gly Tyr His Ser Ile
35 40 45
Val Gln Arg Pro Met Asp Leu Ser Thr Ile Lys Lys Asn Ile Glu Asn
50 55 60
Gly Leu Ile Arg Ser Thr Ala Glu Phe Gln Arg Asp Ile Met Leu Met
65 70 75 80
Phe Gln Asn Ala Val Met Tyr Asn Ser Ser Asp His Asp Val Tyr His
85 90 95
Met Ala Val Glu Met Gln Arg Asp Val Leu Glu Gln Ile Gln Gln Phe
100 105 110

Leu

<210> 29
<211> 106
<212> PRT
<213> Gallus gallus

<400> 29

Asn Leu Pro Thr Val Asp Pro Ile Ala Val Cys His Glu Leu Tyr Asn
1 5 10 15
Thr Ile Arg Asp Tyr Lys Asp Glu Gln Gly Arg Leu Leu Cys Glu Leu
20 25 30
Phe Ile Arg Ala Pro Lys Arg Arg Asn Gln Pro Asp Tyr Tyr Glu Val
35 40 45
Val Ser Gln Pro Ile Asp Leu Met Lys Ile Gln Gln Lys Leu Lys Met
50 55 60
Glu Glu Tyr Asp Asp Val Asn Val Leu Thr Ala Asp Phe Gln Leu Leu
65 70 75 80
Phe Asn Asn Ala Lys Ala Tyr Tyr Lys Pro Asp Ser Pro Glu Tyr Lys
85 90 95
Ala Ala Cys Lys Leu Trp Glu Leu Tyr Leu
100 105

<210> 30
<211> 112

<212> PRT
<213> Gallus gallus

<400> 30

Ser	Ser	Pro	Gly	Tyr	Leu	Lys	Glu	Ile	Leu	Glu	Gln	Leu	Leu	Glu	Ala
1				5					10					15	
Val	Ala	Val	Ala	Thr	Asn	Pro	Ser	Gly	Arg	Leu	Ile	Ser	Glu	Leu	Phe
			20					25					30		
Gln	Lys	Leu	Pro	Ser	Lys	Val	Gln	Tyr	Pro	Asp	Tyr	Tyr	Ala	Ile	Ile
		35					40					45			
Lys	Glu	Pro	Ile	Asp	Leu	Lys	Thr	Ile	Ala	Gln	Arg	Ile	Gln	Asn	Gly
	50					55					60				
Thr	Tyr	Lys	Ser	Ile	His	Ala	Met	Ala	Lys	Asp	Ile	Asp	Leu	Leu	Ala
65					70					75					80
Lys	Asn	Ala	Lys	Thr	Tyr	Asn	Glu	Pro	Gly	Ser	Gln	Val	Phe	Lys	Asp
				85					90					95	
Ala	Asn	Ala	Ile	Lys	Lys	Ile	Phe	Asn	Met	Lys	Lys	Ala	Glu	Ile	Glu
			100					105					110		

<210> 31
<211> 112
<212> PRT
<213> Gallus gallus

<400> 31

Thr	Ser	Phe	Met	Asp	Thr	Ser	Asn	Pro	Leu	Tyr	Gln	Leu	Tyr	Asp	Thr
1				5					10					15	
Val	Arg	Ser	Cys	Arg	Asn	Asn	Gln	Gly	Gln	Leu	Ile	Ser	Glu	Pro	Phe
			20					25					30		
Phe	Gln	Leu	Pro	Ser	Lys	Lys	Lys	Tyr	Pro	Asp	Tyr	Tyr	Gln	Gln	Ile
		35					40					45			
Lys	Thr	Pro	Ile	Ser	Leu	Gln	Gln	Ile	Arg	Ala	Lys	Leu	Lys	Asn	His
	50					55					60				
Glu	Tyr	Glu	Thr	Leu	Asp	Gln	Leu	Glu	Ala	Asp	Leu	Asn	Leu	Met	Phe
65					70					75					80
Glu	Asn	Ala	Lys	Arg	Tyr	Asn	Val	Pro	Asn	Ser	Ala	Ile	Tyr	Lys	Arg
				85					90					95	
Val	Leu	Lys	Met	Gln	Gln	Val	Met	Gln	Ala	Lys	Lys	Lys	Glu	Leu	Ala
			100					105					110		

<210> 32
<211> 113
<212> PRT
<213> Gallus gallus

<400> 32

Ser	Lys	Lys	Asn	Met	Arg	Lys	Gln	Arg	Met	Lys	Ile	Leu	Tyr	Asn	Ala	
1				5					10					15		
Val	Leu	Glu	Ala	Arg	Glu	Ser	Gly	Thr	Gln	Arg	Arg	Leu	Cys	Asp	Leu	
			20					25					30			
Phe	Met	Val	Lys	Pro	Ser	Lys	Lys	Asp	Tyr	Pro	Asp	Tyr	Tyr	Lys	Ile	
		35					40					45				
Ile	Leu	Glu	Pro	Met	Asp	Leu	Lys	Met	Ile	Glu	His	Asn	Ile	Arg	Asn	
	50					55					60					
Asp	Lys	Tyr	Val	Gly	Glu	Glu	Ala	Met	Ile	Asp	Asp	Met	Lys	Leu	Met	
65					70					75					80	
Phe	Arg	Asn	Ala	Arg	His	Tyr	Asn	Glu	Glu	Gly	Ser	Gln	Val	Tyr	Asn	
				85					90					95		
Asp	Ala	His	Met	Leu	Glu	Lys	Ile	Leu	Lys	Glu	Lys	Arg	Lys	Glu	Leu	
			100					105					110			

Gly

<210> 33

<211> 115

<212> PRT

<213> Gallus gallus

<400> 33

Lys	Lys	Ser	Lys	Tyr	Met	Thr	Pro	Met	Gln	Gln	Lys	Leu	Asn	Glu	Val	
1				5					10					15		
Tyr	Glu	Ala	Val	Lys	Asn	Tyr	Thr	Asp	Lys	Arg	Gly	Arg	Arg	Leu	Ser	
			20					25					30			
Ala	Ile	Phe	Leu	Arg	Leu	Pro	Ser	Arg	Ser	Glu	Leu	Pro	Asp	Tyr	Tyr	
		35					40					45				
Ile	Thr	Ile	Lys	Lys	Pro	Val	Asp	Met	Glu	Lys	Ile	Arg	Ser	His	Met	
	50					55					60					
Met	Ala	Asn	Lys	Tyr	Gln	Asp	Ile	Asp	Ser	Met	Val	Glu	Asp	Phe	Val	
65					70					75					80	
Met	Met	Phe	Asn	Asn	Ala	Cys	Thr	Tyr	Asn	Glu	Pro	Glu	Ser	Leu	Ile	
			85						90					95		
Tyr	Lys	Asp	Ala	Leu	Val	Leu	His	Lys	Val	Leu	Leu	Glu	Thr	Arg	Arg	
			100					105					110			

Glu Ile Glu
115

<210> 34

<211> 112

<212> PRT
 <213> Schizosaccharomyces pombe
 <400> 34

His	Asn	Ala	Pro	Phe	Asp	Lys	Thr	Lys	Phe	Asp	Glu	Val	Leu	Glu	Ala
1				5					10					15	
Leu	Val	Gly	Leu	Lys	Asp	Asn	Glu	Gly	Asn	Pro	Phe	Asp	Asp	Ile	Phe
			20					25					30		
Glu	Glu	Leu	Pro	Ser	Lys	Arg	Tyr	Phe	Pro	Asp	Tyr	Tyr	Gln	Ile	Ile
		35					40					45			
Gln	Lys	Pro	Ile	Cys	Tyr	Lys	Met	Met	Arg	Asn	Lys	Ala	Lys	Thr	Gly
	50					55					60				
Lys	Tyr	Leu	Ser	Met	Gly	Asp	Phe	Tyr	Asp	Asp	Ile	Arg	Leu	Met	Val
65					70					75					80
Ser	Asn	Ala	Gln	Thr	Tyr	Asn	Met	Pro	Gly	Ser	Leu	Val	Tyr	Glu	Cys
				85					90					95	
Ser	Val	Leu	Ile	Ala	Asn	Thr	Ala	Asn	Ser	Leu	Glu	Ser	Lys	Asp	Gly
			100					105					110		

<210> 35
 <211> 113
 <212> PRT
 <213> Schizosaccharomyces pombe
 <400> 35

Gly	Thr	Asn	Glu	Ile	Asp	Val	Pro	Lys	Val	Ile	Gln	Asn	Ile	Leu	Asp
1				5					10					15	
Ala	Leu	His	Glu	Glu	Lys	Asp	Glu	Gln	Gly	Arg	Phe	Leu	Ile	Asp	Ile
			20					25					30		
Phe	Ile	Asp	Leu	Pro	Ser	Lys	Arg	Leu	Tyr	Pro	Asp	Tyr	Tyr	Glu	Ile
		35					40					45			
Ile	Lys	Ser	Pro	Met	Thr	Ile	Lys	Met	Leu	Glu	Lys	Arg	Phe	Lys	Lys
	50					55					60				
Gly	Glu	Tyr	Thr	Thr	Leu	Glu	Ser	Phe	Val	Lys	Asp	Leu	Asn	Gln	Met
65					70					75					80
Phe	Ile	Asn	Ala	Lys	Thr	Tyr	Asn	Ala	Pro	Gly	Ser	Phe	Val	Tyr	Glu
				85					90					95	
Asp	Ala	Glu	Lys	Leu	Ser	Gln	Leu	Ser	Ser	Ser	Leu	Ile	Ser	Ser	Phe
			100					105					110		

Ser

<210> 36
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 36

Gly Thr Asn Glu Ile Asp Val Pro Lys Val Ile Gln Asn Ile Leu Asp
1 5 10 15
Ala Leu His Glu Glu Lys Asp Glu Gln Gly Arg Phe Leu Ile Asp Ile
20 25 30
Phe Ile Asp Leu Pro Ser Lys Arg Leu Tyr Pro Asp Tyr Tyr Glu Ile
35 40 45
Ile Lys Ser Pro Met Thr Ile Lys Met Leu Glu Lys Arg Phe Lys Lys
50 55 60
Gly Glu Tyr Thr Thr Leu Glu Ser Phe Val Lys Asp Leu Asn Gln Met
65 70 75 80
Phe Ile Asn Ala Lys Thr Tyr Asn Ala Pro Gly Ser Phe Val Tyr Glu
85 90 95
Asp Ala Glu Lys Leu Ser Gln Leu Ser Ser Ser Leu Ile Ser Ser Phe
100 105 110

Ser

<210> 37

<211> 114

<212> PRT

<213> Homo sapiens

<400> 37

Ser Pro Asn Pro Pro Asn Leu Thr Lys Lys Met Lys Lys Ile Val Asp
1 5 10 15
Ala Val Ile Lys Tyr Lys Asp Ser Ser Ser Gly Arg Gln Leu Ser Glu
20 25 30
Val Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu
35 40 45
Leu Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg
50 55 60
Asn His Lys Tyr Arg Ser Leu Asn Asp Leu Glu Lys Asp Val Met Leu
65 70 75 80
Leu Cys Gln Asn Ala Gln Thr Phe Asn Leu Glu Gly Ser Leu Ile Tyr
85 90 95
Glu Asp Ser Ile Val Leu Gln Ser Val Phe Thr Ser Val Arg Gln Lys
100 105 110

Ile Glu

<210> 38

<211> 113

<212> PRT

<213> Gallus gallus

<400> 38

Ser Pro Asn Pro Pro Lys Leu Thr Lys Gln Met Asn Ala Ile Ile Asp
1 5 10 15
Thr Val Ile Asn Tyr Lys Asp Ser Ser Gly Arg Gln Leu Ser Glu Val
20 25 30
Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu Leu
35 40 45
Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg Asn
50 55 60
His Lys Tyr Arg Ser Leu Gly Asp Leu Glu Lys Asp Val Met Leu Leu
65 70 75 80
Cys His Asn Ala Gln Thr Phe Asn Leu Glu Gly Ser Gln Ile Tyr Glu
85 90 95
Asp Ser Ile Val Leu Gln Ser Val Phe Lys Ser Ala Arg Gln Lys Ile
100 105 110

Ala

<210> 39

<211> 114

<212> PRT

<213> Gallus gallus

<400> 39

Ser Pro Asn Pro Pro Asn Leu Thr Lys Lys Met Lys Lys Ile Val Asp
1 5 10 15
Ala Val Ile Lys Tyr Lys Asp Ser Ser Ser Gly Arg Gln Leu Ser Glu
20 25 30
Val Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu
35 40 45
Leu Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg
50 55 60
Asn His Lys Tyr Arg Ser Leu Asn Asp Leu Glu Lys Asp Val Met Leu
65 70 75 80
Leu Cys Gln Asn Ala Gln Thr Phe Asn Leu Glu Val Ser Leu Ile Tyr
85 90 95
Glu Asp Ser Ile Val Leu Gln Ser Val Phe Thr Ser Val Arg Gln Lys
100 105 110

Ile Glu

<210> 40

<211> 105

<212> PRT

<213> Homo sapiens

<400> 40

Ala Lys Leu Ser Pro Ala Asn Gln Arg Lys Cys Glu Arg Val Leu Leu
1 5 10 15
Ala Leu Phe Cys His Glu Pro Cys Arg Pro Leu His Gln Leu Ala Thr
20 25 30
Asp Ser Thr Phe Ser Leu Asp Gln Pro Gly Gly Thr Leu Asp Leu Thr
35 40 45
Leu Ile Arg Ala Arg Leu Gln Glu Lys Leu Ser Pro Pro Tyr Ser Ser
50 55 60
Pro Gln Glu Phe Ala Gln Asp Val Gly Arg Met Phe Lys Gln Phe Asn
65 70 75 80
Lys Leu Thr Glu Asp Lys Ala Asp Val Gln Ser Ile Ile Gly Leu Gln
85 90 95
Arg Phe Phe Glu Thr Arg Met Asn Glu
100 105

<210> 41

<211> 105

<212> PRT

<213> Mus musculus

<400> 41

Ala Lys Leu Ser Pro Ala Asn Gln Arg Lys Cys Glu Arg Val Leu Leu
1 5 10 15
Ala Leu Phe Cys His Glu Pro Cys Arg Pro Leu His Gln Leu Ala Thr
20 25 30
Asp Ser Thr Phe Ser Met Glu Gln Pro Gly Gly Thr Leu Asp Leu Thr
35 40 45
Leu Ile Arg Ala Arg Leu Gln Glu Lys Leu Ser Pro Pro Tyr Ser Ser
50 55 60
Pro Gln Glu Phe Ala Gln Asp Val Gly Arg Met Phe Lys Gln Phe Asn
65 70 75 80
Lys Leu Thr Glu Asp Lys Ala Asp Val Gln Ser Ile Ile Gly Leu Gln
85 90 95
Arg Phe Phe Glu Thr Arg Met Asn Asp
100 105

<210> 42

<211> 108

<212> PRT

<213> Mus musculus

<400> 42

Thr Lys Leu Thr Pro Ile Asp Lys Arg Lys Cys Glu Arg Leu Leu Leu
1 5 10 15
Phe Leu Tyr Cys His Glu Met Ser Leu Ala Phe Gln Asp Pro Val Pro
20 25 30
Leu Thr Val Pro Asp Tyr Tyr Lys Ile Ile Lys Asn Pro Met Asp Leu
35 40 45
Ser Thr Ile Lys Lys Arg Leu Gln Glu Asp Tyr Cys Met Tyr Thr Lys
50 55 60
Pro Glu Asp Phe Val Ala Asp Phe Arg Leu Ile Phe Gln Asn Cys Ala
65 70 75 80
Glu Phe Asn Glu Pro Asp Ser Glu Val Ala Asn Ala Gly Ile Lys Leu
85 90 95
Glu Ser Tyr Phe Glu Glu Leu Leu Lys Asn Leu Tyr
100 105

<210> 43

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic bromodomain peptide

<220>

<221> Xaa

<222> (1)..(1)

<223> Xaa can be any single amino acid

<220>

<221> Xaa

<222> (2)..(2)

<223> Xaa can be any single amino acid

<220>

<221> Xaa

<222> (4)..(6)

<223> Xaa is a maximum of three amino acids. Each of these can be any amino acid. One may be missing.

<220>

<221> Xaa

<222> (6)..(13)

<223> Xaa is a maximum of eight amino acids. Each of these can be any amino acid. One, two, or three may be missing.

<220>

<221> Xaa

<222> (7)..(7)

<223> Xaa is a single amino acid that can be Pro, Lys, or His.

<220>
 <221> Xaa
 <222> (8)..(8)
 <223> Xaa is a single amino acid that can be any amino acid.

<220>
 <221> Xaa
 <222> (10)..(10)
 <223> Xaa is a single amino acid that can be a Tyr, Phe, or His.

<220>
 <221> Xaa
 <222> (11)..(15)
 <223> Xaa is five amino acids. Each of these can be any amino acid.

<220>
 <221> Xaa
 <222> (13)..(13)
 <223> Xaa is a single amino acid that can be Met, Ile, or Val.

<400> 43

Xaa Xaa Phe Xaa Pro Xaa Xaa Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Asp
 1 5 10 15

<210> 44
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
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Glu Val Ile Arg
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